

DEPARTMENT OF AGRICULTURE

Center for Nutrition Policy and Promotion

**Notice of Availability of Proposed Food Guide Pyramid Daily Food Intake Patterns and
Technical Support Data and Announcement of Public Comment Period**

AGENCY: Center for Nutrition Policy and Promotion, USDA

ACTION: Notice

SUMMARY: The Food Guide Pyramid is based on current science, which continues to increase our knowledge about healthy eating. In keeping with this, USDA has initiated a broad-based review and update of the Pyramid's food patterns based on current nutritional standards, to serve as a framework that can help consumers assess and improve their diets. The USDA Center for Nutrition Policy and Promotion (CNPP) solicits written comments on proposed revisions to the daily food intake patterns that serve as the technical basis for the Food Guide Pyramid. The proposed daily food intake patterns and technical support data are available electronically and in hard copy; for availability, refer to Section I of the SUPPLEMENTARY INFORMATION below.

DATES: Written comments on the proposed daily food intake patterns and technical support documents can be submitted and must be received by the Agency on or before [insert date that is 45 days after publication of notice]. Please provide technical data, citations, or other information to substantiate your comments, if needed.

ADDRESSES: Submit written comments to Food Guide Pyramid Reassessment Team, USDA Center for Nutrition Policy and Promotion, 3101 Park Center Drive, Room 1034, Alexandria, VA 22302.

SUPPLEMENTARY INFORMATION:

I. Obtaining Copies of the Proposed Daily Food Intake Patterns and Technical Support Data

The proposed daily food intake patterns and technical support data can be downloaded from the Internet in .PDF file format at www.cnpp.usda.gov/pyramid-update. Hard copies of the information are available for review at the Reference section of the National Agricultural Library located at 10301 Baltimore Avenue, Beltsville, MD, 20705. The telephone number is (301) 504-5755. Additional background information on the Food Guide Pyramid is also available on the Internet at www.cnpp.usda.gov/pyramid-update and at the National Agricultural Library. This additional information includes a bibliography of prior technical publications.

II. Context for the Revision Process and Relationship to the Dietary Guidelines

CNPP is requesting comments on the proposed daily food intake patterns and the supporting technical data for the Food Guide Pyramid. CNPP is asking for comments on the adequacy, methodology, and use of the data. The Food Guide Pyramid is an educational tool that interprets and helps Americans implement the Dietary Guidelines for Americans. The process for updating the Pyramid is being coordinated with the upcoming review and potential revision of the Guidelines. Proposed food intake patterns and a summary of comments received in response to this notice will be presented to and discussed with the 2005 Dietary Guidelines Advisory Committee before the patterns are finalized, to seek Committee input into the process and outcomes. After these technical documents have been finalized, revisions to the graphic

presentation of the Pyramid and consumer materials will proceed. CNPP anticipates that proposed revisions to the graphic presentation will also be posted for public comment at a later time.

III. Background on the Food Guide Pyramid

The Food Guide Pyramid is based on the latest scientific standards for healthful eating. USDA has provided food guidance to the American public for over 100 years, and the Food Guide Pyramid is the current graphic representation of this guidance. The Pyramid is a food-based dietary guidance tool to help Americans make daily food choices that are *adequate* in meeting nutritional standards but *moderate* in energy level and in food components often consumed in excess. What is “adequate” and “moderate” is determined by recommendations from established authoritative bodies, expert panels such as the Dietary Guidelines Advisory Committee and the National Academy of Sciences’ Institute of Medicine (IOM) Dietary Reference Intake committees.

The Pyramid itself is a graphic representation of science-based daily food intake patterns. These daily food intake patterns form the foundation for both the graphic presentation of the Pyramid and for consumer messages about what and how much to eat. This notice announces the availability of proposed updates to these food intake patterns, which identify amounts to consume from each food group and subgroup at a variety of energy levels. These patterns have been developed to meet current nutritional standards for adequacy and moderation, and they will form the basis for the development of the graphic presentation as well as consumer messages and materials. CNPP is not seeking comments on the graphic presentation of the Pyramid at this time. Development of the consumer presentation and public comment on it will occur at a later time.

The Pyramid was originally released in 1992. It was designed to demonstrate food intake patterns that were both *adequate* and *moderate*. The goal of designing “total diet” recommendations differed from previous food guides that were concerned with adequacy only and were presented as “foundation diets” to which other foods could be added. The adequacy and moderation of the Pyramid’s original food patterns were assessed by comparing nutrients in these patterns to nutritional goals determined from the IOM Recommended Dietary Allowances (RDA), the Dietary Guidelines for Americans, and other widely accepted standards that were current at the time.

Another goal for the original food intake patterns was that they would be based on foods commonly consumed by Americans, as determined from national food consumption surveys, to make the recommendations realistic and practical. Thus, food groups and subgroups were established based on nutritional similarities among foods, similar uses of the foods in meals, and consumer perceptions of the foods as similar. The food intake patterns, then, included the types of foods Americans most commonly eat, grouped in familiar ways, but with the amounts from each food group and subgroup modified to represent healthful proportions. To determine these proportions, nutrient profiles were calculated for each food group and subgroup by using a weighted average of the nutrients supplied by the foods in that group, with weights based on nationwide consumption of the food items. The nutrient profiles were used to determine the amount that the Pyramid should include from each group or subgroup in order to meet the nutritional goals at various calorie levels. Nutrient profiles were calculated by using forms of each food in the group with the lowest fat content and without added sugars. Additional fat and added sugars for each food intake pattern were calculated and listed separately from the food groups, in amounts to meet energy and nutrient goals for the pattern. This permitted individuals

to select some foods containing additional fats or sugars, such as whole milk, sweetened cereals, or cookies, or to use the additional fats and sugars in food preparation.

When the Food Guide Pyramid was released in 1992, its accompanying consumer booklet focused on three food intake patterns, at 1600, 2200, and 2800 calories, to illustrate diets spanning the range of numbers of servings recommended. These three patterns covered average energy needs of many age/gender groups as suggested by the 1989 RDA. Adjustments to those patterns were suggested for young children, who require fewer calories, and for teens and young adults for whom higher amounts of calcium were recommended. Technical reports on development of the Pyramid described analyses of food intake patterns at additional calorie levels, ranging from 1200 to 3200 calories. (See bibliography of technical publications at www.cnpp.usda.gov/pyramid-update.)

Proposed revisions to the daily food intake patterns are based on the same philosophical goals that were used in developing the original Pyramid—including the goals to represent a total diet that is both *adequate* and *moderate*, as well as to reflect current food consumption choices in determining nutrient sources. The data sources for the revision were the most current versions available at the time the analysis was conducted. They include the IOM Dietary Reference Intakes released between 1997 and 2002 and the *2000 Dietary Guidelines for Americans*, for setting nutritional goals, and the USDA Continuing Survey of Food Intakes by Individuals 1994-96, for food consumption information. CNPP is presently analyzing data from the 1999-2000 National Health and Nutritional Examination Survey, released in August 2002 by the Department of Health and Human Services, to corroborate the adequacy of the proposed food intake patterns.

IV. Daily Food Intake Patterns

Daily Food Intake Patterns identify the types and variety of foods suggested for Americans to eat for health, and the general proportions in which these foods should be eaten. Individuals with higher energy needs would eat more from all food groups than would those with lower energy needs. Therefore, the daily intakes are presented as food patterns at a number of energy levels. These are provided in Table 1. Each pattern identifies specific amounts of foods from each food group and subgroup for an individual whose needs match that energy level. To ensure that foods of this variety and proportion will meet nutrient needs, the total nutrients from all foods in each food intake pattern are compared with specific nutrient goals.

The nutrient goals for the proposed Daily Food Intake Patterns shown in Table 1 were set to meet new nutritional standards, including the year 2000 *Dietary Guidelines for Americans* and the IOM Dietary Reference Intakes for vitamins, minerals, and macronutrients released between 1997 and 2002. The specific targeted energy levels and nutritional goals for each proposed food pattern, using these current reference standards, are provided in Table 2 and Table 3. The specific goals for each food pattern were set to meet the nutritional needs of the age and gender group(s) whose average energy needs approximately matched the energy level of the pattern.

With the prevalence of overweight and obesity rising, and with a predominantly sedentary population, it is of utmost importance to select suggested energy levels for each age/gender group that will not overestimate needs. Therefore, the decision was made to create food patterns for each age/gender group appropriate for several levels of physical activity. The pattern for each group at the lowest energy level, appropriate for sedentary individuals, was used as the target pattern to compare with the nutrient goals for that age/gender group. Both target patterns used for comparison with nutritional goals and suggested patterns for more physically active

individuals are provided in Table 2. The food patterns at the higher energy levels will also meet nutrient goals, and will provide more food for an active individual's energy needs.

To determine if each food intake pattern meets its nutrient goals, CNPP calculated the overall nutrient content of each pattern. For these calculations, nutrient profiles for each food group were revised based on the most recent data available on food consumption patterns of Americans. Nutrient profiles are weighted averages of the nutrient content of foods in each food group or subgroup. Weights are based on consumption by Americans of various foods in the group. Nutrient profiles for a reference amount (e.g., ½ cup or 1 ounce) of each food group and subgroup are provided in Table 4. Based on these nutrient profiles and the proposed daily intakes from each food group and subgroup, the total nutrients in each pattern were determined and compared to the nutritional goals set for that pattern. The nutrients in each pattern and comparison with goals are provided in Table 5.

The following Tables are available for review and comment at www.cnpp.usda.gov/pyramid-update:

1. **Proposed Daily Food Intake Patterns.** This document lists the daily amounts of food from each group and subgroup in proposed food patterns at multiple energy levels.
2. **Energy Levels for Proposed Food Intake Patterns.** This document lists the target and suggested energy levels for the food intake patterns (shown in Table 1) for various age/gender groups, based on Estimated Energy Requirements set by the IOM. Target patterns are designed for sedentary individuals of reference body size within various age/gender groups and are used in determining the nutrient adequacy of each pattern. Higher suggested food pattern energy levels are also presented for individuals in each age/gender group who are “low active” or “active” according to the IOM definitions.

3. **Nutritional Goals for Proposed Daily Food Intake Patterns.** This document lists the nutritional goals for each proposed food intake pattern. These goals include targets for vitamins, minerals, and macronutrients and acceptable intake ranges for macronutrients for various age/gender groups. Goals were set based on Dietary Reference Intakes reports for various vitamins, minerals, and macronutrients that have been released by the IOM from 1997 to 2002; on quantitative recommendations in the year 2000 Dietary Guidelines; for sodium and cholesterol on Daily Values set by the Food and Drug Administration (FDA) for use on food labels; and for potassium on the estimated minimum requirement from the 1989 RDAs.
4. **Nutrient Profiles of Food Guide Pyramid Food Groups and Subgroups.** These profiles identify the nutritional composition of foods in each group or subgroup, weighted by their average consumption by Americans. Nutrient profiles are also included for additional solid fats, oils and soft margarines, and for added sugars. Consumption data for food groups were calculated from the 1994-96 USDA Continuing Survey of Food Intakes by Individuals. The nutrient profiles are used in determining whether the nutritional goals for each Pyramid food pattern are met.
5. **Nutrients in Proposed Food Intake Patterns.** This table identifies the overall nutrient composition for each proposed food pattern and how this nutrient composition compares to the nutritional goals set for that pattern. First, the total amount of each nutrient in the pattern is calculated by using the nutrient profile for each food group or subgroup (Table 4) multiplied by the amount to be consumed from that group (Table 1). Then, the total amount of each nutrient is compared to the nutritional goal for that nutrient reported in Table 3. The

result of that comparison is shown in Table 5 as a percent of the nutrient goal or as a percent of calories.

V. Topics of Particular Interest to CNPP for Comments

Comments are welcomed on all aspects of the proposed Daily Food Intake Patterns and the accompanying technical support data tables. CNPP has particular interest in receiving comments from the public on the following issues and questions:

1. Appropriateness of using *sedentary, reference-sized individuals* in assigning target calorie levels (Table 2) for assessing the nutritional adequacy and moderation of each food intake pattern.

Reference heights and weights are set in Dietary Reference Intakes reports. Reference heights are the median heights for each age/gender group. Reference weights are weights that should approximate “ideal” weights based on low risk of chronic disease and adequate growth for children. For most adults, the reference weight used in these calculations represents a weight that is less than their actual weight. Use of average weights would increase the estimated energy requirements, and their use could promote consumption of food at a level that would increase weight or maintain weight above what is healthy.

The calorie levels for food patterns used in comparing intakes with nutritional goals are those that are appropriate, on average, for sedentary individuals in each age/gender group. Use of these calorie levels does not require the assumption that a person needs to be active in order to meet nutrient needs. Given the sedentary lifestyles of many Americans, it was considered better not to assume any specific level of physical activity.

However, CNPP does plan to encourage physical activity in Food Guide Pyramid materials designed for consumers.

2. Appropriateness of the *selection of nutritional goals* for the daily food intake patterns.

The nutritional goals and their sources are identified in Table 3. For most nutrients, the *adequacy goal* is based on the RDA or Adequate Intake set by the IOM in recent Dietary Reference Intake reports. RDAs rather than Estimated Average Requirements, also set by the IOM, were used as the criteria for the nutritional goals because the food intake patterns are designed for use by individuals rather than for planning group intakes. The goal for each pattern is to have an intake at the RDA or Adequate Intake level or higher, but less than the Upper Limit of intake for that nutrient. In light of the inherent limitations of the data used to set the RDA and to create nutrient profiles, small deviations below the target of 100% RDA were considered acceptable. Because of the way nutrients are distributed in foods, levels of some nutrients in the food patterns (protein and vitamins C and A, for example) will likely exceed recommended quantities, while the pattern provides just the recommended quantities of other nutrients (folate and zinc, for example). Amounts of a nutrient in excess of the RDA or Adequate Intake were considered acceptable as long as they did not exceed the Upper Limits for that nutrient. For potassium, no recent Dietary Reference Intake report was available, so the 1989 minimum requirement was used.

For *moderation goals*, the standards used were the Acceptable Macronutrient Distribution Ranges (AMDR) from the IOM macronutrients report, quantitative recommendations from the 2000 Dietary Guidelines, or Daily Values set by FDA for use on Nutrition Facts Labels. In the case of the AMDRs, the goals were for nutrient levels to be within the

range specified. An intake goal for trans fats was not set because no quantified standard is provided in the Dietary Reference Intakes or the Dietary Guidelines. In addition, data on the current amount of trans fats in many food items are not available. CNPP does plan to provide information about limiting consumption of trans fats in materials designed for consumers.

Nutritional goal for total fiber: For total fiber, the IOM set Adequate Intake (AI) levels for each age/gender group based on the median caloric intake for that group. Since the food intake patterns are planned to meet nutrient needs at lower calorie levels—for sedentary, reference-sized individuals—the AIs were not considered to be appropriate goals. Therefore, the nutritional goal for total fiber is 14 grams total fiber per 1000 calories, the value used by the IOM as the basis for setting AI levels. In addition, the AI for fiber is set for “total” fiber rather than the “dietary” fiber that is available in food composition tables. The IOM report suggests that the amount of total fiber in an average diet, about 2000 calories, may be approximately 5.1 grams more than the amount of dietary fiber. Therefore, to convert the dietary fiber amounts from food composition data to estimates of total fiber, 2.5 grams were added to the calculated amount of dietary fiber for each 1000 calories in the food intake pattern.

Nutritional goal for vitamin E: The RDA for vitamin E in the 2000 IOM report increased substantially over the 1989 RDA. Typical intakes of vitamin E, as measured in food consumption surveys, are far less than the new RDA. Meeting the new RDA, especially at lower calorie intakes, would require substantial changes from typical intakes and would require the use of foods not commonly consumed. This is not consistent with the philosophical goal of being realistic and practical. While not reaching the RDA, vitamin

E levels in the revised food intake patterns are higher than current consumption and are also higher than in the original food intake patterns. The major sources of vitamin E in American diets are fats and oils (20%) and vegetables (15%). Sunflower and safflower oils are especially rich in vitamin E, but the majority of vitamin E from fats and oils in American diets comes from soybean oil, which is much more widely consumed. The proposed daily food intake patterns include higher levels of dark green vegetables, legumes, and oils and soft margarines (replacing some solid fats) than the original Pyramid. Specifying the use of nuts and seeds to meet the vitamin E RDA was not considered to be feasible, since they contribute only 4% of the total vitamin E in American diets. In addition, peanuts or peanut butter, which together represent about 80% of all nut consumption, are not especially rich sources of vitamin E.

Nutritional goal for added sugars: The amounts of added sugars listed for each food intake pattern represent the amounts that can be included in each pattern without overconsuming calories. In the Dietary Reference Intakes macronutrients report, a suggestion was made to limit added sugars to less than 25% of calories as a maximal level. This is well above the amounts of added sugars in the proposed food patterns, which range from about 6% of calories at intakes of 1600 calories or less to 13% of calories at an intake of 3,200 calories. The amounts in each proposed pattern are set to balance energy intake with needs, given (1) that selections are made from all food groups in accordance with the suggested amounts, and (2) that additional fats are used in the amounts shown, which together with the fats in the core food groups represent about 30% of calories from fat.

3. Appropriateness of the proposed *food intake patterns for educating Americans* about healthful eating patterns.

Are the proposed patterns reasonable intakes to expect for the various age/gender groups?

Are the proposed intakes of some food groups or subgroups feasible? While the proportions of food items in each food group or subgroup are based on typical food choices, amounts suggested to be eaten from the group are altered to be nutritionally appropriate—for example, the amounts of whole grains, dark-green vegetables, legumes, and fruits suggested are higher than current intakes. Amounts of whole grains, dark-green vegetables, and legumes are also higher than in the original Pyramid food patterns at similar calorie levels. “Additional fats” are provided in each proposed pattern to allow choice of some added fat in food preparation or higher fat options within each food group. These “additional fats” have been separated into solid fats (more saturated) and oils and soft margarines (more unsaturated). Suggested intakes of solid fats are lower than the proportion now eaten and suggested intakes of oils and soft margarines higher than the proportion now eaten, to encourage substitution of solid fats with oils and soft margarines. Will professionals be able to use these proposed new patterns to help educate Americans about healthful eating patterns? Will individuals or families be able to use these patterns in making food choices?

4. Appropriateness of using “cups” and “ounces” vs. “servings” in consumer materials to suggest daily amounts to choose from each food group and subgroup. The proposed patterns in Table 1 show both quantity and servings information—they are not inconsistent. However, use of both in consumer materials would be confusing. CNPP

would like to receive comments on this issue prior to the development of consumer materials.

There are advantages and disadvantages of each method of representing the amounts suggested for each food group. Using the term “serving” to mean a standardized amount of food is widely misunderstood by consumers; many believe that the portion of a food they choose, whatever the size, is “one serving.” This may lead to misinterpretation that the Pyramid encourages too much food. In addition, it is often difficult to harmonize Pyramid serving sizes with those used by FDA on Nutrition Facts labels. The serving sizes used on labels are not necessarily equivalent within a food group in terms of calories or nutrients, while Pyramid serving sizes within a group must be approximately equivalent in both calories and nutrients. In addition, for some products the serving size listed on Nutrition Facts labels may vary from 50 to 200% of the FDA-determined standard.

However, listing a single quantity, such as “2 cups” or “5 ounces” as a suggested daily intake for a food group may suggest that choosing a variety of foods within the group is not important. Also, identifying a single quantity measure appropriate for foods in the grains group may be difficult. Can consumers understand, for example, that 2 slices of bread are equivalent to 1 cup of grains? In addition, some consumers may not be familiar with total quantity or weight terms. We recognize that with either system, information about equivalents is needed and would have to be provided to consumers. Equivalents within each group will be needed to explain, for example, that 1½ ounces of cheese equals 1 cup of milk, or that 1½ ounces of cheese equals 1 serving of milk.

5. *Selection of appropriate illustrative food patterns* for various consumer materials. The original Food Guide Pyramid provided food intake patterns at three calorie levels: 1600, 2200, and 2800 calories. The proposed food intake patterns are provided at twelve calorie levels, to offer more specific guidance and help identify appropriate food intake levels to maintain or improve weight status. CNPP would like to receive comments on the selection of smaller subsets of these food patterns for various uses prior to the development of consumer materials.

For development of consumer materials, what criteria should be used to select a smaller number of illustrative food intake patterns? Which subset(s) of patterns would be most useful for various audiences? Different groups of food intake patterns could be selected for specific target audiences, such as adolescents or older Americans. Alternatively, a common group of food intake patterns could be selected based on a determination of the most common overall estimated calorie needs for the population, by using estimates of actual activity levels.

VI. Public Disclosure and Availability of Comments

All comments submitted in response to this notice will be included in the record and will be made available to the public. Please be advised that the substance of the comments and the identities of the individuals or entities submitting the comments will be subject to public disclosure. CNPP plans to make the comments publicly available by posting a copy of all comments on the CNPP website at www.cnpp.usda.gov/pyramid-update.

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Date